

On the Road

ON THE RELIEF ROUTE-S.R.1

Route 7 to U.S. Route 113

Issue 5

Fall 1990



The Corps permit was signed on October 31 at its Philadelphia office. Pictured is Secretary of Transportation Kermit H. Justice (seated) and Corps of Engineers Lieutenant Colonel Kenneth H. Clow.

WETLAND PERMITS APPROVED

DelDOT has received federal and state approval of the wetland fill permits necessary to begin construction of the mainline. The U.S. Army Corps of Engineers permit represents agreement by the federal environmental review group--the Corps, the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, and the National Marine Fisheries. The DE Division of Natural Resources and Environmental Protection (DNREC) issued the state permit allowing construction in tidal wetlands and underwater lands. Both permits allow for the construction of the entire Smyrna-Dover Bypass and the northern section from the St. Georges Bridge to Tybout's Corner. No design changes affecting the construction schedule were necessary for approval. ■



Delaware
Department of Transportation

Kermit H. Justice, Secretary
Robert D. Bewick, Jr.,
Deputy Secretary
John T. Davis, Director
Division of Highways

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SR-1 MAINLINE CONSTRUCTION UNDERWAY

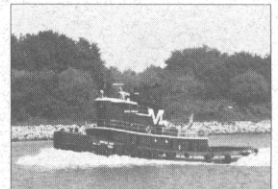
Construction of the first five miles of the U.S. Route 13 Relief Route, the Smyrna Bypass, began on November 12. The Smyrna contract was awarded to the Hardaway Company of Columbus, Georgia, who submitted the low bid of \$37.9 million dollars, very close to the DelDOT engineers' estimate. Eight firms bid on the project, including two Delaware contractors who submitted joint venture bids with other regional firms. About 100 firms from around the country purchased contract specification packages at a cost of \$300 each.

Designed by Gannett-Flemming, Inc., this first phase of the SR-1 mainline runs from Thoroughfare Neck Road (NC 485) north of the Smyrna rest area south to Big Oak Road (K325), bypassing the town on the east. In addition to 5.6 miles of four-lane limited access highway, the job involves the construction of two interchanges, one north and one south of town; five bridges--two over streams, one over Route 13, one over the Smyrna interchange, and one carrying K12 over SR-1; and relocation of NC 485 and Duck Creek Road. The

construction schedule calls for work year-round with completion in two and one-half years. The new road is expected to open to traffic by the summer of 1993.

Advance construction of the Road 30 (Smyrna Prison Road) and Road 6 (Woodland Beach Road) bridges over SR-1 will allow these roads to remain open during construction of the Smyrna Bypass. The concrete deck and hotmix surface have been poured at both locations. The two bridges will open to traffic by the first of December with only miscellaneous utility work and final seeding left to complete.

Advertisement for construction bids opened in October for the mainline section from Big Oak Road to the Dennys Road interchange, between Smyrna and Dover, and in November for the section from Dennys Road to Lafferty Lane in Dover. The Smyrna-Dover connector contract will be awarded in December and the Dover Bypass contract at the first of the new year. ■



Over 1.5 million tons of cargo, half in foreign trade, are transported annually on the C&D Canal. See "Milestones", page 2.

IN THIS ISSUE

- New canal bridge 2
- Odessa hearing 2
- Wetland sites 2
- Archaeology 2
- Interview with archaeologist 3
- How to contact consultant team 4

Mile STONES

• **NEW C&D CANAL BRIDGE** - Two alternate designs for the new bridge over the C&D Canal—one in steel and the other concrete—are nearly complete. The competing designs will be advertised together in late 1990 or early 1991 with receipt of bids due eight weeks after the opening date. Because of the expertise required to construct the cable-stayed structure, interested bidders must meet special prequalification standards. Opportunity for contractor prequalification has been advertised in national trade journals.

To obtain a permit from the U.S. Coast Guard to build the bridge, DelDOT must ensure that construction will not interfere with shipping activity. DelDOT has met with the U.S. Army Corps of Engineers, the Coast Guard, and maritime representatives to establish a schedule and guidelines for working in the canal. A clear line of communications will be set up among DelDOT, the Corps, and the contractor. Because half of canal traffic occurs at night, restrictions to meet ship schedules should not have a major impact on construction activity. Public comments on the bridge permit application are now under review.

• **ODESSA DESIGN PUBLIC HEARING** - Preliminary engineering design for the next phase of the Relief Route, the Odessa section, is well underway. The section, which will be constructed in phases, runs from Scott's Run, just south of the site of the new C&D Canal Bridge, to Road 485, the northern terminus of the Smyrna-Dover Bypass. Engineering plans will be available for public review and comment at design public hearings tentatively scheduled for Spring 1991. Prior to the hearing, informal workshop meetings will be held with local residents and businesses to review the alignment location selected earlier and to discuss design concerns regarding impacts on properties. Meeting dates and locations will be announced in local newspapers.

• **WETLAND CREATION SITE ACQUISITION** - DelDOT has acquired four properties and is pursuing ownership of an additional three sites to create seasonally wet, forested wetlands. The status of each is as follows:

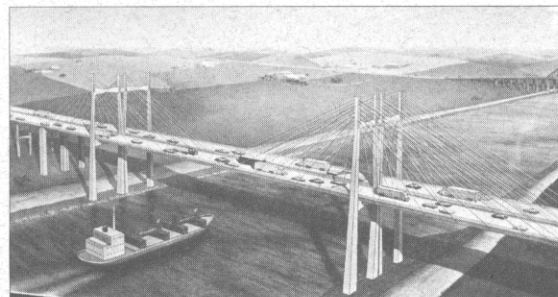
Property	Location	Acreage	Status
Island	US 113, north of DAFB	159	acquired, borrow approval
Carey	US 113, across from DAFB	67	acquired, borrow approval
Pollack	east of US 13, Leipsic River	45	negotiation, borrow approval
Sarro	north of Dover Downs	108	acquired, no borrow approval
Rusten	adjacent to Dover Downs	88	acquired, no borrow approval
Hurd	east of US 13, near Rt. 6	109	negotiation, wetlands site only
Brown	east of US 13, near Rt. 6	225	negotiation, wetlands site only

Kent County Levy Court has approved three of the sites for conditional use as sources of borrow. Material excavated from these sites to create wetland soil and hydrological conditions will be used in the construction process as fill. These three sites, contiguous to the new highway, along with material excavated on the job, will yield nearly 75% of the 5 million cu. yds. of fill needed to construct the Smyrna-Dover Bypass. The balance will be dug from private borrow pits.

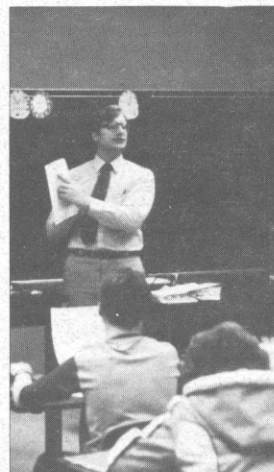
• **ARCHAEOLOGY** - Excavations within the Smyrna-Dover Bypass right-of-way were concluded on October 11. These digs were the largest public works archaeology project in the U.S. this summer. The sites have been backfilled with subsoil and covered with topsoil so that farmers can plant up to the time of construction. Excavated artifacts, all of which are State property, are displayed for schools, civic associations, and historic societies. DelDOT has received a "Take Pride in America" award for its cultural resources public outreach program. Facilities for the permanent display of its cultural artifact collection could be part of the expansion of the Smyrna rest area. ■



The new C&D Canal bridge, either in concrete (above) or in steel (below), will be built 2,000 feet west of the existing St. Georges Bridge. The main span of the new bridge will be 750 feet long, while the full length with approaches will be 4,600 feet. The 138-foot vertical clearance will permit ships to travel unimpeded.

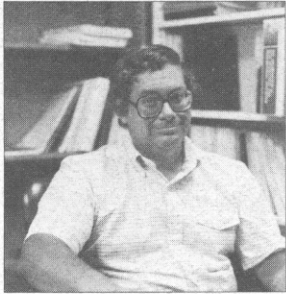


Above (left) is a 1730s Queen Anne drinking pot of Rhenish stoneware found at the Manee-Cahoon site behind Belmont Hall. The shape of the hand-blown wine bottle (right) dates it to c.1720.



DelDOT archaeologist Kevin Cunningham (left) presents historic resource findings at an elementary school. In addition to group presentations, Kevin arranges visits to excavation sites.

1ne PERSPECTIVE



In this issue, "Perspective" interviews Jay F. Custer, Ph.D., Director of the University of Delaware's Center for Archaeological Research and Principal Investigator for archaeological resource studies along the Relief Route. He and the center's 50-member staff, working closely with DelDOT archaeologist

Kevin Cunningham, have been involved with the SR-1 project since its beginning in 1984.

Q. How were excavation sites identified?

JC. Within the original study corridor, which was 50 miles long and 10 miles wide, we mapped known archaeological sites and used satellite imagery to predict other likely locations, such as areas with well-drained soils that were close to waterways and wetlands. This information, noting thousands of potential sites, assisted planners in selecting preliminary alignments for the new road. For portions of each of the six alternatives, we conducted a ground survey for signs of buried artifacts, which helped further determine which locations SR-1 should avoid.

Along the Smyrna-Dover Bypass, once the final alignment was chosen, we conducted an intensive survey which identified 55 sites. We then assessed the significance of each site--i.e., its potential contribution to answering research questions. We studied historic maps and records such as road papers, used by 18th century property owners to appeal for an upgrade, and travelers' accounts, common in the early 19th century. In the field we dug soil test pits to determine the amount of plow disturbance, likely places to retrieve artifacts, and discolorations indicating house foundations, wells, trash pits or graves. Based on our reports, 9 of the 55 sites were determined eligible for the National Register of Historic Places. Because the road could not avoid all sites, these nine had to be excavated prior to construction. The road was moved to miss a tenth site, an unmarked cemetery at Lafferty Lane with 120 burials dating from 1790 to 1870.



Jay Custer examines Leipsic seed specimens.

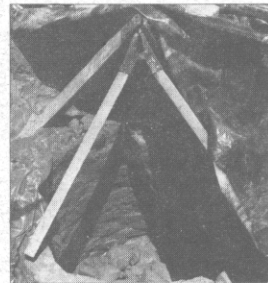
Q. What does an archaeological excavation involve?

JC. During the data recovery or excavation phase, 5'x5' pits are dug at regular intervals across the site. Soils from as deep as 3 feet are sifted with 1/4" grid screens in search of ceramics, tools or other artifacts. When large artifacts are found, trowels and brushes are used to avoid damage while clearing away soil. Soil samples are sent to the university laboratory where they are further sifted with a fine screen and water-separated in a 55 gallon flotation drum. Seeds float to the top while heavier artifact bits remain at the bottom. Seeds are analyzed under a microscope to determine what plant species existed at the time. Unusual seed specimens are taken for identification to Franklin and Marshall College in Lancaster, PA, which has one of the best collections in the world. Charred pollen, wood, or other hearth fire remains are sent to a radiation lab in Florida to date and identify species.

Q. What significant findings have been uncovered to date?

JC. Three sites are prehistoric. The Leipsic River site, dating from 2500 B.C. to 500 B.C., is a small part of a series of major base camps extending along the stream from Delaware Bay to Garrisons Lake. Hunting and gathering people lived along streams and wetlands because of the richness of food resources. An abundant variety of plants and animals, such as deer, thrive in these "edge" environments. About 100 "pit houses" were discovered in the 300'x300' foot excavated area, revealing a population density and an intensive use of the riverine areas not previously understood. People dug holes for seasonal houses for use, probably during winter, by an extended family. Each had a scooped out living area lined with bark or clay, a storage pit, an outhouse, a fireplace, and a pole and wigwam frame. Only one or two of these 100 houses were occupied at a time. The insights gained at Leipsic have enabled us to put pieces of the picture together. In fact, the university plans to return to older sites to reinterpret previous findings.

Prehistoric sites have also been discovered near Dover Downs and south of Road 345. While Leipsic was a base camp, occupied by a whole family unit, these two sites were hunting camps probably used by the men for side trips from a base camp. Their location near wetlands provided good hunting and fresh water but not enough surface water to survive for long periods. The Road 345 site dates as early as 8000 B.C., and the Dover Downs site was used as late as 1300 A.D.



Above are remains of an icehouse found at the Moore-Taylor farm complex (1860-1941) northeast of Dover. The site documents changes in the farm labor market and decline in agricultural prosperity during this period.

DID YOU KNOW?

- The University of Delaware's Center for Archaeological Research received an "Excellence in Design of Highways" award from the Federal Highway Administration for its use of satellite imagery in predicting prehistoric sites in the SR-1 corridor.

- From 10000-5000 B.C. the Delmarva environment was warm, wet and dominated by spruce and hemlock forests.

- Pollen cores indicating the existence and possible prehistoric use of wild rice were first picked up during SR-1 archaeological work.

- SR-1 work involved Delaware's first large-scale underwater survey, conducted by Karell Archaeological Services of Washington, DC, who unearthed the stern of a 19th century wooden ship on the banks of Mill Creek in Smyrna.

("Perspective" continued from page 3)

Q. What more recent findings have been uncovered?

JC. The earliest excavated historic site, south of Mill Creek near Smyrna, dates from the mid-1700s--after the English had succeeded earlier Swedish and Dutch settlers. Remains of this farmstead, called Manee-Cahoon after families identified through deed research, indicate that people ate mostly wild fauna, deer and pig, fish and oysters. To raise livestock, domesticated animals would have had to be imported from England at great expense and were unlikely to survive the journey.

The Darrach Store site at Smyrna Landing, once a major colonial shipping point on the Duck Creek River, was occupied by a wealthy merchant family from 1760 to 1860. Artifacts buried under what was a huge brick structure, used for 50 years as both store and dwelling, show how the use of objects and the arrangement of buildings changed over time. For example, during the early 19th century, families began to worry about social status--

they stopped throwing trash outside the door, bought new household furnishings, and began to landscape their property.

Several tenant farm sites offer a view of life of a disadvantaged segment of rural society. Three are located close together on Lewis Drive north of Dover. Remains of a forge on the 18th century Lewis-E site indicates an unusual tenant who was also a blacksmith. The 19th century Wilson-Lewis site reveals a kind of poverty associated with the rural South. The Moore-Taylor site was at first owner-occupied and later tenanted. The Savin site north of Smyrna is the only one with existing buildings.

The six historic sites tell a story of what happened at different points in time within a small local area of Kent County--the story of everyday material life about which little is written. ■

To Our Readers

The State of Delaware and the consultant team are committed to continuing the citizen input process during the design and construction phases of the project. We invite you to write us with questions or comments regarding On the Road or to arrange for a presentation to bring your group up to date on the Relief Route. To receive your free copy of On the Road as well as other mailings related to the project, please write or call us with your request.

For More INFORMATION

CONTACT DelDOT

Delaware Department of Transportation
P.O. Box 778
Dover, DE 19903

- Public Information - contact Michele Ackles, Manager of Community Relations, at 739-4313.
- Design Issues or Alignment Location - contact Carolann Wicks, Project Coordinator, at 739-4341.
- Environmental Issues - contact Joe Wutka, Location Studies Engineer, at 739-4642.
- Right-of-Way Acquisition and Relocation - contact Ira White, Project Acquisitions Manager, at 739-2776.

Or CONTACT THE CONSULTANT TEAM

Kise Franks & Straw
219 North Broad Street, 9th Floor
Philadelphia, PA 19107
Toll-Free: 1-800-343-3084

- Jeremy Alvarez - Deputy Director

REQUEST FOR MAILING LIST UPDATE

Each issue, many newsletters are returned as undeliverable. Please notify KFS of any change of name or address so we can update our files and ensure your receipt of On the Road.

On the Road

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